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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/775,375	01/31/2001	John F. McEntee	10004032-1	7821

7590 12/30/2003

AGILENT TECHNOLOGIES  
Legal Department, 51U-PD  
Intellectual Property Administration  
P.O. Box 58043  
Santa Clara, CA 95052-8043

EXAMINER
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QUAN, ELIZABETH S

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 12/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Applicati n No.

09/775,375

Applicant(s)

MCENTEE ET AL.

Examiner

Elizabeth Quan

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-- Th MAILING DATE of this communication appears on th cov r sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☒ Claim(s) 1, 7-10, 12, and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Specification***

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Objections***

2. Claims 7, 8 and 10 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Referring to claims 7, 8 and 10, it appears that the regularly spaced features are being attributed to different functionalities and do not structurally further limit the base claim.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
6. Claims 1-5, 7-16, 18, 19, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 04-009666 to Hirokazu et al. in view of U.S. Patent No. 5,770,860 to Franzen or U.S. Patent No. 6,083,763 to Balch or U.S. Patent No. 6,448,089 to Vuong.

Hirokazu et al. disclose a strip containing a number of microplatess (a) (see ABSTRACTS; FIGS. 1 and 2). The strip comprises a pocket strip (c) with a number of pockets, which has structural features including shape, configuration, and form for positioning and orienting a microplate within the pocket since each pocket contains a microplate. (see ABSTRACTS; FIGS. 1 and 2). A cover strip (b) is thermocompression bonded to the pocket strip (c) on three sides to create enclosed chambers from the pockets with the unbonded one side forming an aperture (d) (see ABSTRACTS; FIGS. 1 and 2). The bonding occurs via mechanical force applied to complementary molded features of the pocket strip (c) and cover strip (b). The limitations of the cover strip (b) being bonded to the pocket strip (c) via mechanical force applied to complementary molded features of the pocket strip (c) and cover strip (b), bonding the cover strip to the pocket strip via adhesive seal, and each pocket with molded features for positoning

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and orienting a microplate, have been construed as a process claim (see MPEP 2113). A process claim is limited by and defined by the process. Patentability is based on the product and does not depend on its method of production. If the product in the process claim is the same or obvious over a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process. In this case patentability is based on the product strip and does not depend on its method of production. It does not matter whether the cover strip is bonded to the pocket strip via mechanical force or complementary features of the pocket strip and cover strip is molded as long as the prior art has the cover strip and pocket strip. It does not matter whether or not the pocket has features that are molded as long as the prior art has the feature. Since the strip is the same as that of the prior art, the claim is unpatentable even through the prior art uses thermocompression bonding or heat sealing rather than bonding via adhesive sealant.

After each of the microplates (a) are inserted into respective enclosed chambers through respective apertures (d), the inside of each of the enclosed chamber is evacuated to attain a vacuum, and the apertures (d) are heat sealed (e) to maintain the vacuum (see ABSTRACTS; FIGS. 1 and 2). Since the enclosed chamber is formed by thermocompression bonding of the cover strip (b) and pocket strip (c) on three sides, evacuating the bonded the interior of the bonded cover strip (b) and pocket strip (c), and heat sealing the aperture (d) to maintain the vacuum state and prevent other gaseous leakage, the enclosed chamber prevents exchange of liquid and vapor phase substances between the interior of the sealed chamber and external environment (see ABSTRACTS; FIGS. 1 and 2). It is noted that Applicant has distinguished the enclosed chamber from the pocket by characterizing the enclosed chamber as the pocket with the cover strip bonded to it. For examining purposes, an enclosed chamber comprises a pocket and

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cover strip, such that if the enclosed chamber contains the microplate, the pocket contains the microplate.

A gap between the upper surface of the microplate (a) and inner surface of the cover strip (b) may be filled by an adhesive, such as a pressure sensitive film or adhesive tape (see ABSTRACTS). According to Merriam-Webster Collegiate Dictionary, a gap is defined as a break in continuity. Therefore, the adhesive breaks the continuity between the upper surface of the microplate (a) and inner surface of the cover strip (b). There are also gaps between the surfaces of the microplate and the bottom and side surfaces of the pocket and wells labeled as “gaps.” Hirokazu et al. disclose gaps between the surfaces of the microplate and side surfaces of the pocket. Hirokazu et al. do not explicitly disclose gaps between the surfaces of the microplate and bottom surfaces of the pocket. However, gaps are inherent between any two surfaces as two surfaces are inherently imperfect and would inherently fit together imperfectly to create such discontinuities or gaps. Hirokazu et al. also disclose gaps on the surface of the microplate creating wells into which solutions can be introduced. It is also noted that method limitations are accorded no patentable weight in apparatus claims. A recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus if the prior art apparatus teaches all the structural limitations of the claim. An apparatus claim covers what a device is, not what a device does (see MPEP 2114). In this case it does not matter if the gaps create a well into which solutions can be introduced since the prior art teaches all the structural limitations of the claim, including the gaps.

The recitation of “polymer/metal foil laminate” has been interpreted as a laminate that could be made from polymer or metal or both in light of the specification. On page 6, lines 21-31 to page 7, lines 1-4 of the immediate specification cites laminates made of a single or multiple layer(s) of plastic. Therefore, Examiner has interpreted that polymer/metal foil laminate to mean either a polymer or metal or both. In the latter interpretation Hirokazu et al. disclose that the pocket strip (c) is made from the same material as the cover strip (b), and these materials may be polyethylene, nylon, or aluminum coated films (see ABSTRACTS).

Regularly spaced features form the walls or partitions between the enclosed chambers or pockets. These regularly spaced features are provided with stitches. These features could facilitate automatic translation and positioning of the strip, comprise of or be characterized as optical features than can be detected by optical scanning, engage with complementary features of a mechanical translation and positioning mechanism, comprise of or be characterized as electromechanical features than can be detected by sensors within an electromechanical translation and positioning mechanism, comprise of or be characterized as features that can be detected by sensors to direct an electromechanical translating and positioning mechanism to translate and position the strip, etc. Note that the claim language attributes the potential or capability of the features to perform the function of facilitating automatic translation and positioning of the strip, etc. Note: method limitations are accorded no patentable weight in apparatus claims. A recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus if the prior art apparatus teaches all the structural limitations of the claim. An apparatus claim covers what a device is, not what a device does (see MPEP 2114). In this case whether the



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features could facilitate automatic translation and position of the strip, engage with complementary features of a mechanical translation and positioning mechanism, and/or can be detected by sensors has no patentable weight in the apparatus since the prior art teach the regularly spaced features which has the potential of such functionality.

Hirokazu et al. disclose microplates containing a preserving liquid with a stabilizer each of which is sealed within a chamber of the plurality of chambers formed by bonding the pocket strip to the cover strip (page 3 of translation). An object of the invention is to prevent the decrease or loss of a preserving liquid during storage or transportation (page 3 of translation). Hirokazu et al. fail to explicitly disclose microarrays each of which is sealed within a chamber of the plurality of chambers formed by bonding the pocket strip to the cover strip. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the strip of Hirokazu et al. to package a microplate with each well containing microarrays for storage and transportation to accommodate the evolution of microplates in pursuit of high throughput as taught by Franzen, Vuong (col. 4, lines 20-30), and Balch (col. 4, lines 34-38).

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 04-009666 to Hirokazu et al. in view of U.S. Patent No. 5,770,860 to Franzen or U.S. Patent No. 6,083,763 to Balch or U.S. Patent No. 6,448,089 to Vuong, and further in view of U.S. Patent No. 3,700,089 to Halbartschlager et al. or U.S. Patent No. 5,101,975 to Runyon et al. or U.S. Patent No. 5,880,829 to Kauhaniemi et al.

Referring to claim 6, Hirokazu et al. in view of Franzen or Balch or Vuong do not disclose that the regularly spaced features comprise of two sets of tractor feed perforations along

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each edge of the strip. It is very well known to have two sets of tractor feed perforations along each edge of the strip. Runyon et al. show two sets of tractor feed perforations along each edge of the strip. Halbarschlager et al. disclose two sets of tractor feed perforations along each edge of the strip to aid in transporting the strip (see COL. 3, lines 11-17 and 61-67; COL. 4, lines 1-20). Kauhaniemi et al. disclose two sets of tractor feed perforations along each edge of the strip also to aid in transporting the strip (see FIG. 3; COL. 3, lines 1-10 and 25-50). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the strip of Hirokazu et al. in view of Franzen or Balch or Vuong to provide two sets of tractor feed perforations along each edge of the strip as in Halbarschlager et al. or Runyon et al. or Kauhaniemi et al. to aid in dispensing or transporting the strip as it is very well known and adapts to existing automation.

8. Claims 17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 04-009666 to Hirokazu et al. in view of U.S. Patent No. 5,770,860 to Franzen or U.S. Patent No. 6,083,763 to Balch or U.S. Patent No. 6,448,089 to Vuong, and further in view of U.S. Patent No. 3,924,746 to Haines.

Referring to claims 17 and 20, Hirokazu et al. in view of Franzen or Balch or Vuong do not disclose one or more septa affixed to a surface of the cover strip. According to Merriam Webster Collegiate Dictionary, septa or septum are/is defined as a dividing wall or membrane especially between bodily spaces or masses of soft tissue. Haines disclose septa (30,32) affixed to a surface of the cover strip (26) (see FIG. 2; COL. 1, lines 32-49; COL. 2, lines 15-51). The laminate of the septa (30,32) and cover strip (26) may be peeled or resealed to reveal or close a port through which solutions and gases can be introduced into or extracted from the well of the

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microarray in the pocket (see FIG. 2). The laminate has a high resistance to tearing or tampering to prevent accidental opening or unsealing of the laminate from the pocket (see ABSTRACT; COL. 1, lines 32-49; COL. 2, lines 15-51). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the strip of Hirokazu et al. in view of Franzen or Balch or Vuong to provide one or more septa affixed to a surface of the cover strip as in Haines to provide high resistance to tearing or tampering to prevent accidental opening or unsealing of the laminate from the pocket.

### ***Response to Arguments***

9. Applicant's arguments, see REMARKS, filed 9/10/2003, with respect to the rejection(s) of claim(s) 1-21 under 102(b) and 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of a secondary reference U.S. Patent No. 5,770,860 to Franzen.

10. The term "feature" was rejected under 112, second paragraph since it was unclear exactly what structure "feature" is and whether the feature recited in the claims is simply the same structure with additional and different functions attributed. However, Examiner has withdrawn that rejection by treating and interpreting "feature" in a reasonably broad manner to mean any structure or configuration of structures that is capable of accomplishing the task recited in the functional limitation. Examiner has treated and interpreted "feature" of claims 7-10 as if the same "feature" or structure has been recited with the only difference of attributing different functional limitations to those features. Applicant maintains that the term "feature" is analogous to the term "fastener." Examiner disagrees with such a narrow interpretation. The term

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“feature” is broader than “fastener.” According to Merriam-Webster Collegiate Dictionary, the term “feature” is defined as the structure, form, or appearance.

***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Quan whose telephone number is (703) 305-1947. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Jill Warden can be reached on (703) 308-4037. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Elizabeth Quan  
Examiner  
Art Unit 1743

eq

  
Jill Warden  
Supervisory Patent Examiner  
Technology Center 1700